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ABSTRACT

An action study was undertaken at the University of Vermont to increase the number of women students in Industrial Education (IE) programs within the Vocational Education and Technology Department. The first objective was to increase the number of women students taking introductory technical courses. Objective 2 was to increase the number of women students taking higher-level technical courses. Objective 3 was to increase the number of women minors and majors in IE. Among the activities undertaken were the development of a slide presentation, a recruitment brochure, and posters; demonstrations and displays in popular meeting places on campus; establishment of working relationships with women's advocacy groups on campus; determination that instructional materials were nonsexist; identification of role models; and counseling. Over an 18-month period, all of the basic courses demonstrated an increase in participation by women. However, the impact on enrollment in upper-level courses was not yet known. Additionally, it is not known whether, when the project is completed, the enrollments will continue or active recruitment efforts will need to be continued in the future. (CML)

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INCREASING FEMALE ENROLLMENT IN INDUSTRIAL EDUCATION

by

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INCREASING FEMALE ENROLLMENT IN INDUSTRIAL EDUCATION

The Vocational Education and Technology Department of the University of Vermont has been an important source of Industrial Education teachers for the past 15 years. Approximately 75% of the Industrial Arts teachers hired in Vermont since 1973 have been graduates of this program. Also, all the Trade and Industry (T&I) teachers hired since 1973 have received all or a portion of their professional education courses through this department. Currently, 25 full-time, secondary vocational teachers are taking courses on a part-time basis as a component of their certification plan. This fall semester approximately 300 full-time day students pass through the department taking 13 technical and professional education courses. The evening program this fall is offering 4 courses to 80 part-time students.

The above paragraph gives a brief sketch of some of the strong points of the department. An acknowledged weakness of the Industrial Education program, however, is the lack of diversity of the student population. For the past 15 years our classes have been primarily taken by male students. Only three women since 1973 have successfully completed our certification program in Industrial Education. All three are currently teachers at the secondary school level. Presently, there are no female candidates majoring in Industrial Education. We have been moderately successful in attracting women students to our introductory level courses. We have not been very successful in recruiting female students into our advanced level technical courses or as minors or majors in the department.

Table I.

Enrollment in Selected Technical Courses in Recent Years

VOTC #	Class Title	Men		Women		Total
		#	%	#	%	#
1	Drafting Tech.	67	78	19	22	85
2	General Shop	83	73	32	27	115
10	Automotive Basics	23	69	10	31	43
30	Woodworking Tech.	185	74	64	25	249
35	Welding/Metal Fab.	106	93	8	7	114
105	Metalworking Tech.	93	94	6	6	99
110	Entrepreneurial Prod.	51	93	6	7	56
131	Construction*	152	86	20	14	178
150	Technical Internship	36	93	3	7	39
155	Student Teaching	21	100	0	0	21

*Required for some Home Economics majors which increases female participation.

Table I clearly demonstrates the difference between male and female participation in VOTC technical courses. Another obvious trend is the steady decline in female participation at the upper level courses.

Purpose

The purpose of this action study was to increase the number of women students in Industrial Education programs within the department. As our current male candidates, these female students would be prepared to enter the teaching profession or become middle level managers in the manufacturing and construction industry.

One could best view this procedure as a multi-level recruitment process whereby an increase at the lower level offers a higher probability of increases at the next level. In other words, if the initial pool is 3 and 30% go on to the next level the program only ends up with 1 candidate. If, instead, we can start with 10, perhaps we can recruit 3 to become majors in the program.

Objective 1 (level 1). Increase the number of women students presently taking introductory technical courses. Focus on Drafting (VOTC 1), Woodworking Technology (VOTC 30) and Metal Fabrication (VOTC 35).

Objective 2 (level 2). Increase the number of women students presently taking higher level technical courses. Focus on Furniture Making (VOTC 197), Building Construction (VOTC 131), Machine Metalworking (VOTC 105).

Objective 3 (level 3). Increase the number of women minors and majors in Industrial Education.

Activities

1. Produce a 10-15 minute slide presentation about the VOTEC Department highlighting career opportunities in technical field as well as teaching.

2. Develop an Industrial Education recruitment brochure showing women in technical jobs and discussing the role of the VOTEC Department in the preparation process.

3. Develop or purchase 10x16 posters showing women in technical jobs and the role of the VOTEC Department in the preparation process.

4. Set up live demonstration and displays of student instruction activities in popular meeting places on campus.

    4.1 Library
    4.2 Billings Student Center
    4.3 Patrick Gym
    4.4 Major dining areas

5. Establish a working relationship with existing women advocates group on campus.

   5.1 American Association of University Women
   5.2 Women of UVM
   5.3 Women's Advisory Committee
   5.4 Women's Organization and Referral Center
   5.5 Society of Women Engineers
   5.6 Women's Sports
   5.7 Sorority Council

6. Give live presentation to UVM women's groups to encourage participation in the department.

7. Work with instructors in the department to ensure all course instructional materials are non-sexist in nature.

8. Give short presentations in each introductory level technical course about the content and the methods of higher level technical courses.

9. Meet with women students one on one during lab periods and recruit them into advance classes.

10. Meet with students majoring in elementary education and discuss the usefulness of an Industrial Education minor, especially for those people interested in teaching in a small rural school

11. Identify female middle managers and technical teachers who would be willing to meet with potential Industrial Education majors to serve as positive role models.

12. Systematically counsel women students who have committed to a minor or major in the department.

Outcomes

The activities were carried out over an 18 month time frame. Some of the activities were carried out on a one-time basis. Other activities were presented on several occasions. Still other activities were presented as many as twenty times over the life of the project. The entire package of activities had a positive impact on the improvement of female enrollment in the department. Given our current information however, one cannot point to a particular activity and suggest it was a more powerful recruitment tool than the other.

Table II.

VOTC #	Class Title	Before Program Women #	Before Program Women %	During/after Women #	During/after Women %	Change %
1	Drafting Tech.	19	22	23	48	26
10	Automotive Basics	10	31	46	44	11
30	Woodworking Tech.	64	25	20	34	9
35	Welding/Metal Fab.	8	7	5	10	3

A review of Table II shows the impact of the recruitment program on female enrollment. All of the basic courses, those without prerequisites, demonstrated an increase in female participation. The next question becomes, what impact with this increased interest have on female participation in upper level courses. Secondly, after this project is over, will women continue to be drawn to the department or will active recruitment efforts need to be continued in the future.